

REVIEWS.

VERNALIZATION AND PHOTOPERIODISM by A. E. Murneck and R. O. Whyte. A Symposium. Waltham, Mass. Chronica Botanica Co., 1948. \$4.50. Johannesburg, Central News Agency.

This volume is the first in a series "Lotsya" which is to comprise specialised biological works. It deals with some aspects of plant investigation which have come to the fore only within recent years.

Investigation and more especially controlled experimental investigation of the physiological bases of plant development are of very recent date. At the present time they are centered on the more obvious features such as flower production. While a definite start has been made, the whole subject is one that is still in its initial phase and is one liable to considerable alteration in outlook as further experimental work is carried out.

This volume deals with some of the possible controlling factors for vegetative and for reproductive growth and the possible explanations of experiments on these. Quite a large volume of work has been done, some of which has received publicity beyond the immediate realm of the research worker. The volume itself is described as a "Symposium" and contains contributions from a number of persons in addition to the nominal authors. It is in fact a most useful and complete summarisation of work done up to date. As an indication of the fields covered the chapter headings may be enumerated. These are:— Foreword; History of Research in Vernalization; History of Research in Photoperiodism; Hormones in relation to Vernalization; Wave Length Dependence and the Nature of Photoperiodism; Photoperiodicity of Flowering under Short Day with supplemental light; Nutrition and Metabolism in relation to Photoperiodism; Anatomical Changes in relation to Vernalization; Length of Day in past geological Eras; Vernalization and Photoperiodism in the Tropics; Phenological Data as a Tool in the Study of Photoperiodic Requirements; Thermoperiodicity. In addition there are three appendices (in German) on Photoperiodism in the Tropics, The Development of Photoperiodism, and The Genetics of Photoperiodism.

The book is not in any sense a popular one, indeed to any but the student of these special fields its reading is far from easy. It is addressed very distinctly to the specialist. As a summary and exposition of the present state of knowledge and as a means of bringing together the results of very widely scattered researches many of which are not at all

readily available, it will be of great value to the research worker and should have an appeal to advanced students. Its publication, by focussing attention on what has been done, should stimulate research on a most fascinating and important field of study.

The book is very well printed though the type used for the literature references is perhaps unduly small. Though not bound it is issued in a strong paper cover. It is illustrated by many graphs and tables in the text and by twelve very well reproduced plates, three of which give portraits of the best known pioneer workers in these subjects.

If the continuation of the series is to be on the standard of the present volume, its success with research workers is assured.

R. S. ADAMSON.

DICTIONARY OF GENETICS by R. L. Knight. Waltham, Mass.: the Chronica Botanica Co.; Johannesburg: Central News Agency, Ltd. Price \$4.50.

This is the second volume of "Lotsya," a serial publication devoted to biological subjects.

The time is ripe for the appearance of a dictionary of genetical terms. As might be expected in a young and vigorous science, terms have multiplied with great rapidity. Sometimes they are necessary, sometimes they are not. Occasionally new terms are coined when words expressing the same thing are already in existence. The author in his preface cites a striking case of this where ten different terms have been proposed to denote one particular region in a chromosome. It is therefore not surprising that the non-specialist scientist finds the reading of genetical literature a difficult task, as most of the terms used have not yet found their way into any standard dictionary. This dictionary will therefore be warmly welcomed as it gives short, clear definitions of the terms in use. Its scope is wide, for it covers not only genetics but the sister science of cytology. It includes large numbers of biological and ecological terms which are liable to appear in genetical papers.

Brevity and clarity are two desirable features in definitions. Occasionally, however, the author is too sparing of words and fails to make his meaning clear. To take a single example, brachymeiosis is defined as a "modified form of meiosis in which no second division occurs". This may be true but surely some reference to its place in the life cycle of certain Ascomycetes is essential? Another minor criticism is the way in which headings of the pages are arranged. The left-hand page always bears the name of the author and the title of the book. The right hand page provides the clue both to the starting point of the previous page

and to its own concluding topic. This departure from the usual practice in dictionaries is a little disconcerting at first and in the opinion of the reviewer brings no compensating advantage.

These, however, are small flaws in an attractive and clearly printed volume. The scientific public is indebted to the author and publishers for producing an extremely useful book.

M. R. LEVYNS.

BIOLOGY OF PATHOGENIC FUNGI, edited by Walter J. Nickerson. *Annales Cryptogamici et Phytopathologici*, Vol. VI, 1947, Waltham, Mass.: The Chronica Botanica Co.; Johannesburg: Central News Agency, Ltd. Pp. 236, 9 plates. \$5.

The fungi which are pathogenic to man are few in number; but they are widely distributed and the diseases they cause are often so resistant to treatment that they present important public health problems.

The study of this interesting and important group of fungi has been hindered by a lack of mycological training in the clinicians whose observations of mycotic diseases constitute the main body of the published literature of medical mycology. Mycologists, on the other hand, are handicapped in dealing with this group by their lack of knowledge of the clinical aspects of the problems involved. The well-known variability of the fungi, both in lesions and when grown on culture media has contributed to the confusion which has arisen with regard to the taxonomy and nomenclature of the group.

The voluminous and often misleading literature has been discouraging to workers wishing to devote themselves to this extremely important field of mycological study.

Dr. Nickerson has done a service to investigators in collecting, in this volume, a number of short articles by recognised experts, summarising what has been accomplished in various phases of research on the biology of the pathogenic fungi. The contents include articles on the pathogenic *Torulopsidoideae*; *Pityrosporum*; and *Coccidioides*. An account of the genera causing *Chromoblastomycosis* includes useful lists of synonyms. Four chapters summarise what is known of the metabolism and biochemical characteristics of these fungi; there is a short account of the action of sulphonamides and antibiotics on various members of the group; and there is a useful chapter on the geographical distribution of systemic fungal diseases. Each chapter includes a list of references.

D. L. OLIVIER.